

REMARKS**Summary of the Office Action**

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,599,050 to Sjöð ("Sjöð") in view of U.S. Patent No. 5,863,162 to Karlsson ("Karlsson").

Response to the Office Action

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sjöð in view of Karlsson. Applicants respectfully traverse the rejection under 35 U.S.C. § 103(a).

Claim 1 recites an apparatus for chip removing machining, including a first part and a second part coupled together by a coupling. The coupling includes two interacting surfaces and a clamping member for forcing the surfaces together. The interacting surfaces are profiled with male and female members, respectively that are intercoupled to establish a firm locking of the first and second parts against each other. The first and the second parts are provided with aligned holes for receiving the clamping member. The male and the female members are oriented on the interacting surfaces such that the male and female members intercouple only in a single position, the orientation of the male and female members prevents the male and female members from intercoupling in another position. Support for claim 1 is provided at, for example, paragraphs 0005, 0033, 0035 and 0036 of Applicants' specification as originally filed.

The Office Action acknowledges that "Sjöð lacks the disclosure of the male and female members being oriented on the interacting surfaces such that the male and female members intercouple only in a single position and the orientation of the male and female members

prevents the male and female members from intercoupling in another position." The Office Action goes on to allege that "Karlsson et al. discloses such an arrangement" and that it would have been obvious to a skilled artisan at the time of the invention to provide Sjöð with the configuration of male and female members as taught by Karlsson in order to preclude the male and female members from intercoupling in another position.

Applicants disagree with the Office Action's interpretation of Karlsson. Karlsson discloses a helix drill which includes a tool tip 10 and a drill body 12. The tool tip 10 includes a rear end surface 16. As described at col. 3, lines 18-29, the end surface 16 is provided with a number of rearwardly protruding radially extending, spaced-apart substantially identical lips 30. The lips 30 are preferably four in number and consist of two pairs of projections in the form of lips 30A and 30B, wherein each pair is arranged on a respective line L1 and L2, extending substantially perpendicular to the axis of rotation 22. The imaginary lines L1 and L2 form an "X" shape with one another. The line L2 forms an acute angle β with the line L1.

The drill body 12 is provided with a front surface 24 facing the tool tip 10, which during mounting is arranged close to the rear end surface 16 of the tool tip 10. As described at col. 4, lines 12-36, the front surface 24 is provided with a number of spaced, radially extending, identical recesses in the form of grooves 26A, 26B. The grooves 26A, 26B form an X in the front surface 24. The grooves 26A, 26B coincide with respective imaginary radial lines L1' and L2' extending substantially perpendicular to the axis 22. The imaginary lines L1' and L2' define an acute angle β' . The angles β and β' are equal. The number of grooves 26 is the same as the number of lip pairs on the end surface 16. As described at col. 4, lines 46-48, the lips and the grooves form a joint with a number of wedging connections. Applicants submit that the "X"

shape arrangement of lips and corresponding grooves, having equal angles β and β' , clearly allows the tool tip 10 to intercouple with drill body 12 in two positions, by simply rotating the tool top 180° around the axis of rotation 22. Nothing in Karlsson discloses otherwise.

Accordingly, Applicants submit that Karlsson also fails to disclose the features of "the male and the female members are oriented on the interacting surfaces such that the male and female members intercouple only in a single position, the orientation of the male and female members prevents the male and female members from intercoupling in another position," as recited in claim 1.

Moreover, Applicants submit that Sjöð teaches away from male and the female members intercoupling only in a single position. Sjöð is directed to a tool coupling including a holder and a cutting insert adapter that may be connected with each other in multiple positions. As described at col. 4, ll. 11-28, and illustrated in Figs. 1-3 of Sjöð, the axial end surfaces of holder 1 and adapter 3 include serrations 12 and 16 respectively. The groove configuration of the respective serrations 12, 16 have a mutually adapted design, and are oriented parallel to each other. Displacement of a stud screw 5 in the center hole 17 brings the holder 1 and the adapter 3 together until the serrations 12, 16 are in complete engagement with each other. As described at col. 6, ll. 19-24 of Sjöð, the tool coupling is symmetrical in relation to its longitudinal center axis 13, which means that the holder may be used both for tools of right-hand type and left-hand type. In certain special applications, for instance in connection with certain special types of turning, the adapter 3 may be rotated 180° relative to the holder 1. As stated at col. 6, ll. 25-26, "[T]his may be effected by the tool coupling according to the present invention [of Sjöð]." Thus,

Sjöð clearly discloses a tool coupling including a holder and a cutting insert adapter that may be connected with each other in multiple positions.

Applicants submit that modifying the tool coupling of Sjöð to include the features of “the male and the female members are oriented on the interacting surfaces such that the male and female members intercouple only in a single position, the orientation of the male and female members prevents the male and female members from intercoupling in another position,” is improper because Sjöð teaches away from such an arrangement.

Claims 2-7 depend from claim 1, and recite the same combination of allowable features recited in claim 1, as well as additional features that define over the prior art. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claims 1-7, be withdrawn.

Claim 8 recites a cutting head for chip removing machining including a head surface adapted to intercouple with a holder surface of a holder. The head surface includes an axially irregular surface profile defined by portions extending axially to different extents than other portions. The axially irregular surface profile is adapted to be received in a corresponding axially irregular surface profile of the holder surface at a first angular position about the center axis with respect to the holder surface. The surface profile of the head surface precludes reception thereof in the surface profile of the holder surface at all other angular positions about the axis such that the head surface and the holder surface intercouple only in a single position and no other position. Claim 9 recites a holder adapted to be coupled with a cutting head for chip removing machining.

As described above, Sjöð discloses a tool coupling including a holder and a cutting insert adapter that may be connected with each other in multiple positions. Karlsson discloses a tool

coupling including a tool top and a drill body that may be connected with each other in multiple positions. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claims 8 and 9, be withdrawn. Applicants submit that all pending claims, *i.e.* claims 1-9, are in condition for immediate allowance.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully requests reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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